

SEQUENCE LISTING

<110> Dahl, Niklas

<120> Genes Associated with Obesity and Methods for Using the Same

<130> ASZD-P01-852

<150> GB 0306185

<151> 2003-03-19

<160> 75

<170> PatentIn version 3.2

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<212> DNA

<213> Homo sapiens

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Glu Thr Phe Pro Ser Asp Pro Pro Glu Pro Leu Pro His Phe Leu Ile
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 <213> Homo sapiens

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Gln Glu Ser Ala Arg Lys Ser Glu Pro Pro Ala Pro Val Arg Arg Gln
      35             40            45

Ser Tyr Ser Ser Thr Ser Arg Asp Asp Asp Phe Phe His Glu Leu Pro
      50             55            60

Glu Thr Phe Pro Ser Asp Pro Pro Glu Pro Leu Pro His Phe Leu Ile
      65             70            75            80

Glu Pro Glu Glu Ala Tyr Ile Val Lys Asn Lys Pro Val Asn Leu Tyr
      85             90            95

Cys Lys Ala Ser Pro Ala Thr Gln Ile Tyr Phe Lys Cys Asn Ser Glu
      100            105            110

Trp Val His Gln Lys Asp His Ile Val Asp Glu Arg Val Asp Glu Thr
      115            120            125

Ser Gly Leu Ile Val Arg Glu Val Ser Ile Glu Ile Ser Arg Gln Gln
      130            135            140

Val Glu Glu Leu Phe Gly Pro Glu Asp Tyr Trp Cys Gln Cys Val Ala
      145            150            155            160

Trp Ser Ser Ala Gly Thr Thr Lys Ser Arg Lys Ala Tyr Val Arg Ile
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 Val Glu Asp Arg Asn Phe Tyr Ile Thr Ile Asp His Asn Leu Ile Ile  
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Ser Ser Gly Ala Asp Ala Ala Ala Gly Ser Arg Glu Thr Pro Leu Asn
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Gln Glu Ser Ala Arg Lys Ser Glu Pro Pro Ala Pro Val Arg Arg Gln
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```

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Ser Tyr Ser Ser Thr Ser Arg Gly Ile Ser Val Thr Lys Lys Thr His
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```

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Thr Ser Gln Ile Glu Ile Ile Pro Cys Lys Ile Cys Gly Asp Lys Ser
      65             70             75             80

```

```

Ser Gly Ile His Tyr Gly Val Ile Thr Cys Glu Gly Cys Lys Gly Phe
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Phe Arg Arg Ser Gln Gln Ser Asn Ala Thr Tyr Ser Cys Pro Arg Gln
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Lys Asn Cys Leu Ile Asp Arg Thr Ser Arg Asn Arg Cys Gln His Cys
      115            120            125

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Arg Leu Gln Lys Cys Leu Ala Val Gly Met Ser Arg Asp Ala Val Lys
      130            135            140

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Phe Gly Arg Met Ser Lys Lys Gln Arg Asp Ser Leu Tyr Ala Glu Val
      145            150            155            160

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Gln Lys His Arg Met Gln Gln Gln Gln Arg Asp His Gln Gln Gln Pro
      165            170            175

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Gly Glu Ala Glu Pro Leu Thr Pro Thr Tyr Asn Ile Ser Ala Asn Gly
      180            185            190

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Leu Thr Glu Leu His Asp Asp Leu Ser Asn Tyr Ile Asp Gly His Thr
      195            200            205

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Pro Glu Gly Ser Lys Ala Asp Ser Ala Val Ser Ser Phe Tyr Leu Asp  
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 Cys Ser Phe Thr Asn Gly Glu Thr Ser Pro Thr Val Ser Met Ala Glu  
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 Phe Ala Lys Arg Ile Asp Gly Phe Met Glu Leu Cys Gln Asn Asp Gln  
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 Cys Arg Ala Phe Asp Ser Gln Asn Asn Thr Val Tyr Phe Asp Gly Lys  
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 Glu Asp Glu Ile Ala Leu Phe Ser Ala Phe Val Leu Met Ser Ala Asp  
 420 425 430  
 Arg Ser Trp Leu Gln Glu Lys Val Lys Ile Glu Lys Leu Gln Gln Lys  
 435 440 445  
 Ile Gln Leu Ala Leu Gln His Val Leu Gln Lys Asn His Arg Glu Asp  
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 Gly Ile Leu Thr Lys Leu Ile Cys Lys Val Ser Thr Leu Arg Ala Leu  
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 Cys Gly Arg His Thr Glu Lys Leu Met Ala Phe Lys Ala Ile Tyr Pro  
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Arg	Gln	Lys	Asn	Cys	Leu	Ile	Asp	Arg	Thr	Ser	Arg	Asn	Arg	Cys	Gln	65	70	75	80
His	Cys	Arg	Leu	Gln	Lys	Cys	Leu	Ala	Val	Gly	Met	Ser	Arg	Asp	Ala	85	90	95	
Val	Lys	Phe	Gly	Arg	Met	Ser	Lys	Lys	Gln	Arg	Asp	Ser	Leu	Tyr	Ala	100	105	110	
Glu	Val	Gln	Lys	His	Arg	Met	Gln	Gln	Gln	Gln	Arg	Asp	His	Gln	Gln	115	120	125	
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Ile	Lys	Pro	Glu	Pro	Ile	Cys	Asp	Tyr	Thr	Pro	Ala	Ser	Gly	Phe	Phe	195	200	205	
Pro	Tyr	Cys	Ser	Phe	Thr	Asn	Gly	Glu	Thr	Ser	Pro	Thr	Val	Ser	Met	210	215	220	
Ala	Glu	Leu	Glu	His	Leu	Ala	Gln	Asn	Ile	Ser	Lys	Ser	His	Leu	Glu	225	230	235	240
Thr	Cys	Gln	Tyr	Leu	Arg	Glu	Glu	Leu	Gln	Gln	Ile	Thr	Trp	Gln	Thr	245	250	255	
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Arg	Met	Cys	Arg	Ala	Phe	Asp	Ser	Gln	Asn	Asn	Thr	Val	Tyr	Phe	Asp	325	330	335	
Gly	Lys	Tyr	Ala	Ser	Pro	Asp	Val	Phe	Lys	Ser	Leu	Gly	Cys	Glu	Asp	340	345	350	
Phe	Ile	Ser	Phe	Val	Phe	Glu	Phe	Gly	Lys	Ser	Leu	Cys	Ser	Met	His	355	360	365	
Leu	Thr	Glu	Asp	Glu	Ile	Ala	Leu	Phe	Ser	Ala	Phe	Val	Leu	Met	Ser	370	375	380	

Ala Asp Arg Ser Trp Leu Gln Glu Lys Val Lys Ile Glu Lys Leu Gln  
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Gln Lys Ile Gln Leu Ala Leu Gln His Val Leu Gln Lys Asn His Arg  
405 410 415

Glu Asp Gly Ile Leu Thr Lys Leu Ile Cys Lys Val Ser Thr Leu Arg  
420 425 430

Ala Leu Cys Gly Arg His Thr Glu Lys Leu Met Ala Phe Lys Ala Ile  
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Tyr Pro Asp Ile Val Arg Leu His Phe Pro Pro Leu Tyr Lys Glu Leu  
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 Ala Ser Gly Thr Gly Ser Ala Ala Gln Asp Asp Asp Phe Phe His Glu  
             35                    40                    45  
 Leu Pro Glu Thr Phe Pro Ser Asp Pro Pro Glu Pro Leu Pro His Phe  
     50                    55                    60  
 Leu Ile Glu Pro Glu Glu Ala Tyr Ile Val Lys Asn Lys Pro Val Asn  
     65                    70                    75                    80  
 Leu Tyr Cys Lys Ala Ser Pro Ala Thr Gln Ile Tyr Phe Lys Cys Asn  
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 Ser Glu Trp Val His Gln Lys Asp His Ile Val Asp Glu Arg Val Asp  
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 Glu Thr Ser Gly Leu Ile Val Arg Glu Val Ser Ile Glu Ile Ser Arg  
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Arg	Ile	Ala	Tyr	Leu	Arg	Lys	Thr	Phe	Glu	Gln	Glu	Pro	Leu	Gly	Lys	165	170	175
Glu	Val	Ser	Leu	Glu	Gln	Glu	Val	Leu	Leu	Gln	Cys	Arg	Pro	Pro	Glu	180	185	190
Gly	Ile	Pro	Val	Ala	Glu	Val	Glu	Trp	Leu	Lys	Asn	Glu	Asp	Ile	Ile	195	200	205
Asp	Pro	Val	Glu	Asp	Arg	Asn	Phe	Tyr	Ile	Thr	Ile	Asp	His	Asn	Leu	210	215	220
Ile	Ile	Lys	Gln	Ala	Arg	Leu	Ser	Asp	Thr	Ala	Asn	Tyr	Thr	Cys	Val	225	230	235
Ala	Lys	Asn	Ile	Val	Ala	Lys	Arg	Lys	Ser	Thr	Thr	Ala	Thr	Val	Ile	245	250	255
Val	Tyr	Val	Asn	Gly	Gly	Trp	Ser	Thr	Trp	Thr	Glu	Trp	Ser	Val	Cys	260	265	270
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Gln	Lys	Ile	Ala	Cys	Thr	Thr	Leu	Cys	Pro	Val	Asp	Gly	Arg	Trp	Thr	305	310	315
Pro	Trp	Ser	Lys	Trp	Ser	Thr	Cys	Gly	Thr	Glu	Cys	Thr	His	Trp	Arg	325	330	335
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Asp	Gly	Leu	Val	Leu	Gln	Ser	Lys	Asn	Cys	Thr	Asp	Gly	Leu	Cys	Met	355	360	365
Gln	Thr	Ala	Pro	Asp	Ser	Asp	Asp	Val	Ala	Leu	Tyr	Val	Gly	Ile	Val	370	375	380
Ile	Ala	Val	Ile	Val	Cys	Leu	Ala	Ile	Ser	Val	Val	Val	Ala	Leu	Phe	385	390	395
Val	Tyr	Arg	Lys	Asn	His	Arg	Asp	Phe	Glu	Ser	Asp	Ile	Ile	Asp	Ser	405	410	415
Ser	Ala	Leu	Asn	Gly	Gly	Phe	Gln	Pro	Val	Asn	Ile	Lys	Ala	Ala	Arg	420	425	430
Gln	Asp	Leu	Leu	Ala	Val	Pro	Pro	Asp	Leu	Thr	Ser	Ala	Ala	Ala	Met	435	440	445

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Val	Tyr	Asn	Thr	Ser	Gly	Ala	Val	Ser	Pro	Gln	Asp	Asp	Leu	Ser	Glu
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Phe	Thr	Ser	Lys	Leu	Ser	Pro	Gln	Met	Thr	Gln	Ser	Leu	Leu	Glu	Asn
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Ser	Cys	Thr	Ala	Phe	Gly	Ser	Phe	Asn	Ser	Leu	Gly	Gly	His	Leu	Ile
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Ser	Cys	Gly	Pro	Pro	Gly	Ala	Leu	Leu	Thr	Arg	Pro	Val	Val	Leu	Thr
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Glu	Glu	Asn	Phe	Thr	Thr	Pro	Cys	Tyr	Ile	Lys	Leu	Asp	Ala	Glu	Ala
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Cys	His	Ile	Leu	Thr	Glu	Asn	Leu	Ser	Thr	Tyr	Ala	Leu	Val	Gly	His
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Ser	Thr	Thr	Lys	Ala	Ala	Ala	Lys	Arg	Leu	Lys	Leu	Ala	Ile	Phe	Gly
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Pro	Leu	Cys	Cys	Ser	Ser	Leu	Glu	Tyr	Ser	Ile	Arg	Val	Tyr	Cys	Leu
	690					695					700				
Asp	Asp	Thr	Gln	Asp	Ala	Leu	Lys	Glu	Ile	Leu	His	Leu	Glu	Arg	Gln
705					710					715					720
Thr	Gly	Gly	Gln	Leu	Leu	Glu	Glu	Pro	Lys	Ala	Leu	His	Phe	Lys	Gly
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Ser	Thr	His	Asn	Leu	Arg	Leu	Ser	Ile	His	Asp	Ile	Ala	His	Ser	Leu
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Trp	Lys	Ser	Lys	Leu	Leu	Ala	Lys	Tyr	Gln	Glu	Ile	Pro	Phe	Tyr	His
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Val Trp Ser Gly Ser Gln Arg Asn Leu His Cys Thr Phe Thr Leu Glu  
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Arg Phe Ser Leu Asn Thr Val Glu Leu Val Cys Lys Leu Cys Val Arg  
785 790 795 800

Gln Val Glu Gly Glu Gly Gln Ile Phe Gln Leu Asn Cys Thr Val Ser  
805 810 815

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Asp	Pro	Val	Glu	Asp	Arg	Asn	Phe	Tyr	Ile	Thr	Ile	Asp	His	Asn	Leu
	210					215					220				
Ile	Ile	Lys	Gln	Ala	Arg	Leu	Ser	Asp	Thr	Ala	Asn	Tyr	Thr	Cys	Val
225				230						235					240
Ala	Lys	Asn	Ile	Val	Ala	Lys	Arg	Lys	Ser	Thr	Thr	Ala	Thr	Val	Ile
				245					250					255	
Val	Tyr	Val	Asn	Gly	Gly	Trp	Ser	Thr	Trp	Thr	Glu	Trp	Ser	Val	Cys
			260					265					270		

Asn Ser Arg Cys Gly Arg Gly Tyr Gln Lys Arg Thr Arg Thr Cys Thr  
 275 280 285  
 Asn Pro Ala Pro Leu Asn Gly Gly Ala Phe Cys Glu Gly Gln Ser Val  
 290 295 300  
 Gln Lys Ile Ala Cys Thr Thr Leu Cys Pro Val Asp Gly Arg Trp Thr  
 305 310 315 320  
 Pro Trp Ser Lys Trp Ser Thr Cys Gly Thr Glu Cys Thr His Trp Arg  
 325 330 335  
 Arg Arg Glu Cys Thr Ala Pro Ala Pro Lys Asn Gly Gly Lys Asp Cys  
 340 345 350  
 Asp Gly Leu Val Leu Gln Ser Lys Asn Cys Thr Asp Gly Leu Cys Met  
 355 360 365  
 Gln Thr Ala Pro Asp Ser Asp Asp Val Ala Leu Tyr Val Gly Ile Val  
 370 375 380  
 Ile Ala Val Ile Val Cys Leu Ala Ile Ser Val Val Val Ala Leu Phe  
 385 390 395 400  
 Val Tyr Arg Lys Asn His Arg Asp Phe Glu Ser Asp Ile Ile Asp Ser  
 405 410 415  
 Ser Ala Leu Asn Gly Gly Phe Gln Pro Val Asn Ile Lys Ala Ala Arg  
 420 425 430  
 Gln Asp Leu Leu Ala Val Pro Pro Asp Leu Thr Ser Ala Ala Ala Met  
 435 440 445  
 Tyr Arg Gly Pro Val Tyr Ala Leu His Asp Val Ser Asp Lys Ile Pro  
 450 455 460  
 Met Thr Asn Ser Pro Ile Leu Asp Pro Leu Pro Asn Leu Lys Ile Lys  
 465 470 475 480  
 Val Tyr Asn Thr Ser Gly Ala Val Thr Pro Gln Asp Asp Leu Ser Glu  
 485 490 495  
 Phe Thr Ser Lys Leu Ser Pro Gln Met Thr Gln Ser Leu Leu Glu Asn  
 500 505 510  
 Glu Ala Leu Ser Leu Lys Asn Gln Ser Leu Ala Arg Gln Thr Asp Pro  
 515 520 525  
 Ser Cys Thr Ala Phe Gly Ser Phe Asn Ser Leu Gly Gly His Leu Ile  
 530 535 540  
 Val Pro Asn Ser Gly Val Ser Leu Leu Ile Pro Ala Gly Ala Ile Pro  
 545 550 555 560  
 Gln Gly Arg Val Tyr Glu Met Tyr Val Thr Val His Arg Lys Glu Thr  
 565 570 575  
 Met Arg Pro Pro Met Asp Asp Ser Gln Thr Leu Leu Thr Pro Val Val  
 580 585 590

Ser Cys Gly Pro Pro Gly Ala Leu Leu Thr Arg Pro Val Val Leu Thr  
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Met His His Cys Ala Asp Pro Asn Thr Glu Asp Trp Lys Ile Leu Leu  
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Leu Ala Gly Val Gln His Pro Ser Leu Leu Ser Gly  
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